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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF	:
DIRK HEINRICH, ET AL.	: EXAMINER: PADGETT
SERIAL NO: 10/624,590	:
FILED: JULY 23, 2003	: GROUP ART UNIT: 1762
FOR: CONTINUOUS CHROMATE-FREE FLUIDIZED-BED PIPE COATING	:

REPLY BRIEF

COMMISSIONER FOR PATENTS
ALEXANDRIA, VIRGINIA 22313
SIR:

This brief is submitted in response to the Examiner's Answer of February 23, 2009.

At page 3, item (3) of the Examiner's Answer, it is stated that the status of the claims is incorrect. However, this is not so because as so indicated on page 2 of Appellants Brief, it is noted that Claim 21 is withdrawn and Claims 1-7, 10, 11, 15-17, 19 and 22 were subject of the Appeal (i.e., the same claims indicated in the Answer).

At page 3, item (4) of the Answer, it is stated that the status of the Amendments was not correct. However, it was correct. Appellants' status was not intended to exclude the fact that two amendments had been filed but were referring to the latest one that had been filed.

A. The Examiner's rejection

The rejection under Appeal as applied under 35 U.S.C. §103(a) Qureshi et al (U.S. patent no. 4,771,523) in view of Winkle et al (U.S. patent no. 5,176,755) or Creps (U.S. patent no. 4,358,887) and further in view of Facer et al (3,560,239) and Kamimura et al (U.S. patent no. 3,616,983).

The Examiner interpreted the scope and content of the method Applicants claim as including (page 8 of the Answer):

> . . the air flush system & flow guide panels in the fluidized bed basin to require, wherein the air flush system positioned above the pipe is effective to "eliminate powder accumulations" & the one or more metal flow guide panels below the pipe is effective to "eliminate powder deficit and resultant pores on the underside of the pipe."

In addition, the Examiner concluded that the method claimed encompasses what is described in the cited Facer who "teach air movement in the various steps, such as fans (88) or suggested air manifolds (78) or air seals and guide panels (90). . . the system acts as a means for drawing fumes and air, thus are flushing systems." (Answer at page 8). Likewise, the Examiner concluded that the method claimed encompasses what is described in the cited Kamimura "where various apparatus show alternative flow configurations, including flow directions from all angles or from below . . .can be considered to incorporate the flow

direction from above as desirable . . . " (Answer at page 6). The Examiner appears not to have recognized that the how the features of the claimed method operate, see Claim 1: "an air flush system positioned above the pipe to eliminate powder accumulation and one or more metal flow-guide panels positioned below the pipe to eliminate powder deficit and resultant pores on the underside of the pipe." While Appellants understand that, during the prosecution of an application in the Office, claims are to be given their broadest reasonable interpretation consistent with the teaching in the specification, it is error to disregard express limitations in the claims.

The plain language of Applicants' claims requires "an air flush system positioned above the pipe to eliminate powder accumulation and one or more metal flow-guide panels positioned below the pipe to eliminate powder deficit and resultant pores on the underside of the pipe."" (cf Claim 1). The Specification consistently uses this same language at page 3, lines 15-19 and page 7, lines 25-30. Applicants submit that the Examiner erred in broadly interpreting the scope and content of the subject matter claimed in a manner inconsistent with the plain language of the claims and the teaching of the Specification.

The Examiner found that Qureshi does not describe the feature of Claim 1 (an air flush system positioned above the pipe to eliminate powder accumulation and one or more metal flow-guide panels positioned below the pipe to eliminate powder deficit and resultant pores on the underside of the pipe) nor does Creps and Winkle, which are primarily cited for the induction frequencies used in the process (Answer at page 6 and the paragraph bridging pages 7-8 discussing Creps and Winkle). These deficiencies are apparently compensated by either of Kamimura, which is cited in Qureshi as a suitable fluidized bed method (Answer at page 6); Facer (Answer at pages 8-9) or the catch all "it would have been further obvious to one of ordinary skill in the art to employ such conventional means for air movement, and

flow control configurations, as they would have provided affects as discussed in Facer et al., such as the ability to draw off fumes via suction caused by a fan, or to prevent agglomeration of the resin, as well as expected uniform coating provided by fluidized bed. . ." (Answer at page 9). Appellants fail to understand how the Examiner's findings with respect to the scope and content of the prior art, whether supported by Qureshi, Kamimura and/or Facer relate to the subject matter Applicants claim and/or would have led a person having ordinary skill in the art to the claimed subject matter. The Examiner has not established that the prior art describes or reasonably would have suggested an air flush system positioned above the pipe to eliminate powder accumulation and one or more metal flow-guide panels positioned below the pipe to eliminate powder deficit and resultant pores on the underside of the pipe in a process for chromate free coating of a pipe.

While Qureshi suggests the possibility that chromate may be absent from the coating process, Qureshi does not recognize any problems that occur when trying to coat a pipe with pulverulent fusible polymer (cf. Claim 1 and the specification at page 1, "Related Art" and the Examples at pages 8-10 demonstrating the advantageous adhesion in a chromate free process).

As explained previously, Kamimura's teachings are different from what is claimed. More specifically, as explained before, Kamimura describes several embodiments for coating pipes in Figures 5-9. In Figures 5, 6 and 7, air sprays are used and in Figures 8 and 9 fluidized-type bed coating is used. These are different and Kamimura makes it clear that they are different (see col. 3, lines 41-44). In the air spray embodiments the spray guns can be positioned at different positions (pointing downward and upward)--see Figs 5, 6, and 7. In the embodiments where fluidized beds are used (Figures 8 and 9), the "powdery plastics will be blow upwardly and thus fluidized (see col. 4, lines 9-10 for Fig. 8 and col. 4, lines 34-36 for Fig. 9).

Further, Fig. 4 of Kamimura et al. that is above the pipe is an *exhaust pipe, No. 29* (thus extraction). In contrast, the method of employing the fluidized bed uses air jets installed above the pipe for selective fluidization in the upper part of the pipe. This is different from Kamimura et al. because in the claimed method the pipe is in full contact with the coating powder, specifically in the ***fluidized-bed coating basin*** (see Claim 1). In the method described Kamimura et al., the coating medium is directed at the pipe by helicoidal radially disposed jets.

Internals above and below the pipe for the purpose of influencing the natural flow direction in a ***fluidized-bed coating basin*** (from bottom to top) in such a way as to avoid the otherwise traditional disadvantages (top: scoop effect; bottom: flow voids/shadows) and to achieve a homogeneous distribution of film thickness are lacking in Kamimura et al.

Thus, if one used the Kamimura's teachings in the Qureshi process, one would choose between air spray applications **or** fluidized beds and in doing so would not achieve a the ***fluidized-bed coating basin*** as defined in the present claims because, as noted, the fluidized bed is achieved only by upward air flow. In other words, combining the art in the manner outlined in the rejection, one would not achieve what is claimed here.

Facer is cited and relied upon for teaching the advantages of conventional means of air flow and would have been equally advantageous to include such into Qureshi to draw off fumes (see Answer at page 8). Facer describes the use of air flow "to purge the priming fumes and to keep the coil free of accumulations" (col. 3, lines 22-23) to maintain the bed in "fluidized state" (col. 3, line 27), and "to prevent agglomeration of the resin at the wire entrance and exit points" (col. 3, lines 32-33). What is missing from Facer is a description or suggestion to specifically arrange an air flush system in the fluidized bed coating basin which is positioned above the pipe and one or more metal flow-guide panels positioned below the

pipe. As discussed hereinabove, this particular arrangement in a chromate-free system for coating pipe yield pipes having uniform layer thickness, both radially and axially, can be reliably produced. (See the present specification at page 7, and particularly, lines 28-29, in which the Applicants state that the advantages of this apparatus in terms of the air-flush system and metal flow-guide panels enable uniform coating thickness).

Therefore, the arrangement and purpose of the air used in the Facer patent is completely different from an air flush system in the fluidized bed coating basin which is positioned above the pipe and one or more metal flow-guide panels positioned below the pipe.

The Examiner has not pointed to any knowledge or skill in the prior art which would have led a person having ordinary skill in the art to specifically include an air flush system positioned above the pipe to eliminate powder accumulation and one or more metal flow-guide panels positioned below the pipe to eliminate powder deficit and resultant pores on the underside of the pipe in a process for coating a pipe with pulverulent fusible polymer in a chromate free process (cf. Claim 1, last line "wherein the pipe is not treated with chromate.").

Indeed, none of the cited art suggests a way to address the problems of coating a pipe, in the absence of chromate to achieve the advantages as claimed. Applicants' Specification teaches that the manner in which the pipe is coated is significant and provides advantages. As noted above, the Specification teaches (Spec., p. 7, lines 28-29):

> Uniform coating layer thickness, both radially and axially, can be ensured only using this fluidized-bed coating basin.

Persons having ordinary skill in the art normally seek "to improve upon what is already generally known." *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003). However, before persons having ordinary skill in the art would want to optimize the choice or use of components in a claimed process, the prior art must at least generally recognize the process

and generally suggest the components the claimed process utilizes to achieve its goals. To establish that Applicants' claimed process would have been obvious to a person having ordinary skill in the art, the prior art must reasonably suggest that persons having ordinary skill in the art do what Applicants claims require. Here, the only suggestion to do what Applicants have done is Applicants' own disclosure, i.e. hindsight.

Where, as here, the rejection of the subject matter Applicants claim is based on hindsight, the rejection is improper.

The Examiner's apparent findings that the devices taught by Kamimura and Facer are the same as that defined in the claimed method are erroneous. The Examiner's finding that these devices or configurations would have been used in Qureshi's process in the manner as claimed is also erroneous. The present specification teaches why the particular components in the claimed device that the claimed method of coating a pipe without chromate is unique and advantageous.

Conclusions of obviousness based on clearly erroneous findings, as is here the case, cannot stand.

Withdrawal of the obviousness rejection is requested.

Respectfully submitted,

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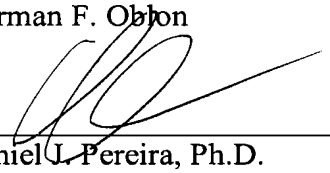

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